No. 9500041

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Michigan Agricultural Experiment Station

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED, PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE Plant Variety Protection Office, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR [illegible]CKING IT FOR ANY OF THE ABOVE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT [illegible]Y THEREFROM, TO THE EXTENT PROVIDED BY THE Plant Variety Protection Act. IN THE [illegible]tates SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED [illegible]HALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE RIGHTS. ([illegible] AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT, COMMON

'Mendon'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this thirty-first day of May in the year of our Lord one thousand nine hundred and ninety-six.

Attest:

Marsha A. Stan[illegible]
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Dan Glickman
Secretary of Agriculture

REPRODUCE LOCALLY. *Include form number and edition date on all reproductions.* **OMB APPROVED NO. 0581-0055**

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE DIVISION

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(INSTRUCTIONS ON REVERSE)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) (as it is to appear on the Certificate)
Michigan Agricultural Experiment Station

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NO.
C4227

3. VARIETY NAME
Mendon

4. ADDRESS (street and no. or R.F.D. no., city, state, and ZIP)
109 Agriculture Hall
Michigan State University
East Lansing, MI 48824

5. PHONE (include area code)
517/355-0123

FOR OFFICIAL USE ONLY

PVPO NUMBER 9500041

FILING
Date Nov. 15, 1994
Time ☐ A.M. ☐ P.M.

FEES RECEIVED
Filing and Examination Fee: $ 2,325.00
Date Oct. 3, 1994
Certificate Fee: $ 300.00
Date 4-30-96

6. GENUS AND SPECIES NAME
Triticum aestivum L.

7. FAMILY NAME *(Botanical)*
Poaceae

8. CROP KIND NAME *(Common Name)*
Soft winter wheat

9. DATE OF DETERMINATION
Dec., 1992

10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.)
Agricultural Experiment Station

11. IF INCORPORATED, GIVE STATE OF INCORPORATION
Michigan

12. DATE OF INCORPORATION

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS
Dr. L.O. Copeland
Dept. of Crop and Soil Sciences
278 Plant and Soil Sciences Building
Michigan State University
East Lansing, MI 48824

PHONE (include area code): 517/353-9545

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED *(Follow* **INSTRUCTIONS** *on reverse)*
- a. ☒ Exhibit A, Origin and Breeding History of the Variety
- b. ☒ Exhibit B, Novelty Statement
- c. ☒ Exhibit C, Objective Description of Variety
- d. ☒ Exhibit D, Additional Description of Variety
- e. ☒ Exhibit E, Statement of the Basis of Applicant's Ownership
- f. ☒ Seed Sample (2,500 viable untreated seeds). Date Seed Sample mailed to Plant Variety Protection Office _____
- g. ☒ Filing and Examination Fee ($2,325) made payable to "Treasurer of the United States"

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? *(See section 83(a) of the Plant Variety Protection Act)* ☒ YES *(If "YES," answer items 16 and 17 below)* ☐ NO *(If "NO," skip to item 18 below)*

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☒ YES ☐ NO

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
☒ FOUNDATION ☐ REGISTERED ☒ CERTIFIED

18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?
☐ YES (If "YES," through ☐ Plant Variety Protection Act ☐ Patent Act. Give date: _____).
☒ NO

19. HAS THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES?
☒ YES (If "YES," GIVE NAMES OF COUNTRIES AND DATES) U.S. - September 1994
☐ NO

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in section 41, and is entitled to protection under the provisions of section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT [Owner(s)]	CAPACITY OR TITLE	DATE
Stephen Kleese	Assistant Vice President for Finance	September 26, 1994
SIGNATURE OF APPLICANT [Owner(s)]	CAPACITY OR TITLE	DATE

SD-470 (06-93) *Editions of Forms LS-470 (3/86) and CSSD-470 (5/89) are to be destroyed.*

CONTINUED ON REVERSE

9500041

Exhibit A. Origin and Breeding History of Mendon Wheat

'Mendon' is a soft red winter wheat (*Triticum aestivum* L.) developed by Michigan State University. Certified seed will be available to farmers in 1994. Mendon was developed primarily for the wheat production regions of southern Michigan.

Mendon is a pure-line selection from the 1978 cross 780756 which has the parentage X0467/B2141//B5250.

The parentage of MSU line X0467 is 'Genesee'/'Winoka'.

The parentage of MSU line B2141 is ('Suwon 92'/'Brevor'//5*'Genesee', A6506)/4/(A4528,Norin 10/Brevor//Yorkwin/3/3*Genesee)

The parentage of MSU line B5250 is (Talbot/CI8487, B0049)/3/(A6200, Genesee*4//Norin 10/Brevor)

$F_{2:3}$ head rows from the 780756 cross were planted in 1979. $F_{2:4}$ bulk selections were subjected to a further round of head selection resulting in $F_{4:5}$ head rows. Two subsequent generations of bulk selection resulting in an $F_{4:6}$ line designated C4227. That line, which was segregating for grain color, was evaluated in yield trials from 1985 through 1987. Manual separation and increase of white and red seed of C4227 during 1988 generated two sister lines designated C4227 (red seed) and C4827 (white seed). C4227 was evaluated in yield trials in 1989 through 1992. Breeder seed of Mendon was initially constituted in 1990 from yield test derived $F_{4:11}$ seed of C4227. Milling and baking quality evaluations have been conducted on Mendon since 1989.

Mendon has been stable and uniform as described in exhibit "C" in the four years (1990-1993) since creation of the initial lot of breeders seed. Mendon exhibits variants at or below the levels indicated below:

1) taller plants, awnless heads, white glume - 2.8 percent
2) taller plants, awnless head, brown glume - 0.9 percent
3) taller plants, awned heads, white glume - 0.7 percent
4) taller plants, awned head, brown glume - 0.3 percent
5) up to 0.60% white-seeded variant in harvested seed

9500041

MICHIGAN STATE UNIVERSITY

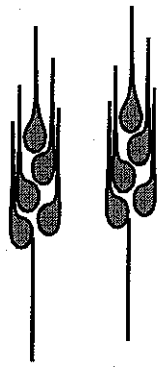
WHEAT BREEDING AND GENETICS

Department of Crop and Soil Sciences
Room A382 Plant and Soil Sciences Building
East Lansing, Michigan 48824-1325

Office (517) 355-2231 / FAX (517) 353-3995
Internet 22857mgr@ibm.cl.msu.edu
Richard W. Ward, Associate Professor

2/16/96

Mendon is most similar to Augusta. Both Mendon and Augusta have white chaff at harvest. Mendon flowers earlier than Augusta. In single location yield tests conducted in Ingham county during 1994 and 1995, Mendon reached anthesis an average of 4.3 days earlier than Augusta. That difference was significant at in each of the trials at an alpha level of 0.01 according to LSD values derived from ANOVA analysis. Mendon's kernel color is red while Augusta's is white. On a Munsel color chart, Mendon kernels in samples from 1991 and 1992 yield tests range in color (on the 1975 Munsell Soil Color Chart) from 7.5YR 7/6 to 7.5YR 6/6, while Augusta's were uniformly 10YR 8/4. Mendon's thousand kernel weight (TKW) is larger than Augusta's. In an ANOVA analysis of mean TKW at 19 sites in Michigan (four years), Mendon's TKW was significantly larger than Augusta's (39.5 g Vs. 35.4 g, alpha=0.05, based on the Duncan's multiple range test which was derived from ANOVA analysis of a set of varieties). There is no evidence that error variances were associated with year of trial. Therefore the across environment analysis (which involves averaging data from sites in different years) is most appropriate.



FORM APPROVED: OMB NO. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK AND SEED DIVISION
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Wheat)

OBJECTIVE DESCRIPTION OF VARIETY
WHEAT (*TRITICUM SPP.*)

INSTRUCTIONS: *See Reverse.*

NAME OF APPLICANT(S)
Michigan Agricultural Experiment Station

ADDRESS (*Street and No. or R.F.D. No., City, State, and ZIP Code*)
109 Agriculture Hall
Michigan State University
East Lansing, MI 48824-1039

FOR OFFICIAL USE ONLY

PVPO NUMBER
9500041

VARIETY NAME OR TEMPORARY DESIGNATION
Mendon

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g. [0][8][9] or [0][9]) when number is either 99 or less or 9 or less.

1. KIND:
[1] 1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5 = POLISH 6 = POULARD 7 = CLUB

2. TYPE:
[2] 1 = SPRING 2 = WINTER 3 = OTHER (*Specify*) _____
[1] 1 = SOFT 2 = HARD 3 = OTHER (*Specify*) _____
[2] 1 = WHITE 2 = RED 3 = OTHER (*Specify*) _____

3. SEASON - NUMBER OF DAYS FROM EMERGENCE TO:
[1][5][9] FIRST FLOWERING
[1][6][3] LAST FLOWERING

4. MATURITY (*50% Flowering*):
[ ][ ] NO. OF DAYS *EARLIER* THAN .....
[0][2] NO. OF DAYS *LATER* THAN .....
[ ] [1] 1 = ARTHUR 2 = SCOUT 3 = CHRIS 4 = LEMHI 5 = NUGAINES 6 = LEEDS

5. PLANT HEIGHT (*From soil level to top of head*):
[1][1][0] CM. HIGH
[1][5] CM. TALLER THAN .....
[ ][ ] CM. SHORTER THAN .....
[1] [ ] 1 = ARTHUR 2 = SCOUT 3 = CHRIS 4 = LEMHI 5 = NUGAINES 6 = LEEDS

6. PLANT COLOR AT BOOTING (*See reverse*):
[2] 1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN

7. ANTHER COLOR:
[1] 1 = YELLOW 2 = PURPLE

8. STEM:
[1] Anthocyanin: 1 = ABSENT 2 = PRESENT
[1] Waxy bloom: 1 = ABSENT 2 = PRESENT
[1] Hairiness of last internode of rachis: 1 = ABSENT 2 = PRESENT
[1] Internodes: 1 = HOLLOW 2 = SOLID
[0][4] NO. OF NODES (*Originating from node above ground*)
[2][1] CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW

9. AURICLES:
[1] Anthocyanin: 1 = ABSENT 2 = PRESENT
[1] Hairiness: 1 = ABSENT 2 = PRESENT

10. LEAF:
[2] Flag leaf at booting stage: 1 = ERECT 2 = RECURVED 3 = OTHER (*Specify*): _____
[2] Flag leaf: 1 = NOT TWISTED 2 = TWISTED
[1] Hairs of first leaf sheath: 1 = ABSENT 2 = PRESENT
[1] Waxy bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT
[1][1] MM. LEAF WIDTH (*First leaf below flag leaf*)
[2][7] CM. LEAF LENGTH (*First leaf below flag leaf*):

9500041

11. HEAD:

[1] Density: 1 = LAX 2 = DENSE

[1] Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE 4 = OTHER (Specify) _____

[2] Awnedness: 1 = AWNLESS 2 = APICALLY AWNLETED 3 = AWNLETED 4 = AWNED

[1] Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED 5 = BROWN 6 = BLACK 7 = OTHER (Specify): _____

[0][8] CM. LENGTH

[1][0] MM. WIDTH

12. GLUMES AT MATURITY:

[2] Length: 1 = SHORT (CA. 7 mm.) 2 = MEDIUM (CA. 8 mm.) 3 = LONG (CA. 9 mm.)

[2] Width: 1 = NARROW (CA. 3 mm.) 2 = MEDIUM (CA. 3.5 mm.) 3 = WIDE (CA. 4 mm.)

[3] Shoulder shape: 1 = WANTING 2 = OBLIQUE 3 = ROUNDED 4 = SQUARE 5 = ELEVATED 6 = APICULATE

[1] Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE

13. COLEOPTILE COLOR:

[1] 1 = WHITE 2 = RED 3 = PURPLE

14. SEEDLING ANTHOCYANIN:

[1] 1 = ABSENT 2 = PRESENT

15. JUVENILE PLANT GROWTH HABIT:

[3] 1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

16. SEED:

[3] Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL

[1] Cheek: 1 = ROUNDED 2 = ANGULAR

[1] Brush: 1 = SHORT 2 = MEDIUM 3 = LONG

[1] Brush: 1 = NOT COLLARED 2 = COLLARED

[ ] Phenol reaction (See instructions): 1 = IVORY 2 = FAWN 3 = LT. BROWN 4 = BROWN 5 = BLACK

[1] Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER (Specify) _____

[0][8] MM. LENGTH

[0][3] MM. WIDTH

[4][0] GM. PER 1000 SEEDS

17. SEED CREASE:

[1] Width: 1 = 60% OR LESS OF KERNEL 'WINOKA' 2 = 80% OR LESS OF KERNEL 'CHRIS' 3 = NEARLY AS WIDE AS KERNEL 'LEMHI'

[1] Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT' 2 = 35% OR LESS OF KERNEL 'CHRIS' 3 = 50% OR LESS OF KERNEL 'LEMHI'

18. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

[0] STEM RUST (Races) _____

[1] LEAF RUST (Races) _____

[0] STRIPE RUST (Races) _____

[0] LOOSE SMUT

[2] POWDERY MILDEW

[0] BUNT

[ ] OTHER (Specify) _____

19. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

[0] SAWFLY

[0] APHID (Bydv.)

[0] GREEN BUG

[0] CEREAL LEAF BEETLE

[0] OTHER (Specify) _____

HESSIAN FLY RACES: [ ] GP [ ] A [ ] B [ ] C [ ] D [ ] E [ ] F [ ] G

20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	Lowell	Seed size	Lowell
Leaf size	Lowell	Seed shape	Lowell
Leaf color	Lowell	Coleoptile elongation	Lowell
Leaf carriage	Lowell	Seedling pigmentation	Lowell

5

INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

(a) L.W. Briggle and L. P. Reitz, 1963, Classification of Triticum Species and Wheat Varieties Grown in the United States, Technical

Exhibit D. Additional Description of Variety (Mendon).

Objective Description

Mendon has large red seeds, is beardless with white chaff at harvest, and is slightly shorter than Augusta. Mendon flowers 3-5 days earlier than Augusta. Mendon's winterhardiness is not known to differ from that of Augusta or Frankenmuth. Its resistance to lodging is poor. Mendon exhibits good field resistance to powdery mildew and wheat spindle streak virus, and possesses an unknown major gene for leaf rust resistance. Races that are virulent against this unknown leaf rust resistance have occurred in Michigan. Mendon will exhibit very susceptible reactions when challenged with virulent leaf rust races.

Mendon is uniform and stable and contains variants at levels at or below the levels indicated below:

1) Taller plants, awnless heads, white glume - 2.8 percent.

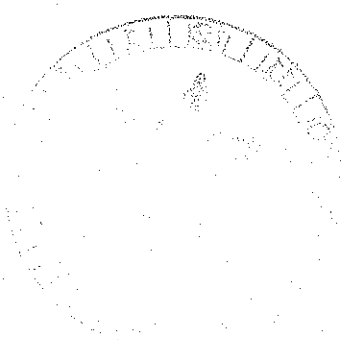
2) Taller plants, awnless head, brown glume - 0.9 percent.

3) Taller plants, awned heads, white glume - 0.7 percent.

4) Taller plants, awned head, brown glume - 0.3 percent.

Performance

Agronomic and quality performance data for Michigan tests conducted between 1986 and 1992 are summarized in the attached table. Data for 1985 through 1987 are for the mixed color progenitor of both C4227 and C4827, now "Mendon" and "Lowell", respectively. In multi-location yield tests conducted in Michigan in 1990 through 1992, Mendon averaged 86.3 bushels per acre across the 19 site-years, compared with 76.7 and 75.6 bushels per acre for Augusta and Frankenmuth, respectively. Mendon's test weight is slightly below average and is usually similar to Augusta's. Yearly evaluations at the USDA Soft Wheat Quality Laboratory in Wooster, Ohio have shown that Mendon exhibits superior milling and baking properties.



Michigan State University Wheat Breeding Program: Multi-Year Performance Summary (All County sites included)
Final Report

Variety Name	MSU Stock ID	Single Year Multi-site Average Yields (Bushels/acre) 1989	1990	1991	1992	Across Year Averages (bu./acre) 2 YR 91-92	3 YR 90-92	4 YR 89-92	1992 Test Weight (lbs/bu.)	COLOR GRAIN	CHAFF	AWNS	Anthesis Date (June 92)	1992 Obs. Leaf Rust score	Lodge score
Pioneer 2510	I5157	-	-	-	114.8	-	-	-	59.4	RED	WHITE	NO	6.0	2	0
Msu Lina	C4826	-	76.4	76.1	108.9	92.5	87.1	-	55.9	WHITE	BRONZE	NO	5.5	5	3
Karena	I5026	-	-	66.4	107.3	86.8	-	-	57.2	WHITE	WHITE	NO	7.5	2	1
P2737W	I5159	-	-	-	105.7	-	-	-	55.5	WHITE	WHITE	NO	5.5	1	1
Mendon	C4227	-	78.0	76.3	105.0	90.6	86.4	-	57.9	RED	WHITE	NO	4.5	4	3
Tw86168	I4663	-	-	67.5	104.8	86.1	-	-	55.5	WHITE	WHITE	NO	9.0	5	2
Rebecca	I5037	-	-	-	104.8	-	-	-	57.1	WHITE	WHITE	YES	8.5	7	4
Lowell	C4827	-	74.9	76.6	103.9	90.2	85.1	-	55.7	WHITE	WHITE	NO	5.5	5	3
Chelsea	C5023	70.5	75.0	66.9	103.9	85.4	81.9	79.0	57.3	WHITE	BRONZE	YES	9.0	3	2
Augusta	M0300	58.6	71.1	61.1	102.8	81.9	78.3	73.4	56.3	WHITE	WHITE	NO	9.0	5	3
Tw86317	I4670	-	-	64.8	102.2	83.5	-	-	55.9	RED	WHITE	NO	8.0	3	2
Harus	M0301	65.9	69.0	71.1	101.7	86.4	80.6	76.9	57.8	WHITE	BRONZE	NO	7.0	2	1
Tw86312	I4674	-	-	67.7	100.8	84.2	-	-	57.8	RED	WHITE	NO	6.0	3	1
Annette H95-9	I5034	-	-	56.9	100.2	78.5	-	-	57.7	WHITE	WHITE	NO	8.5	3	4
Becker	M0297	56.9	61.5	62.1	99.3	80.7	74.3	69.9	57.3	RED	WHITE	NO	4.0	X	1
Cardinal	M0298	62.8	69.5	70.2	98.6	84.4	79.4	75.2	58.6	RED	WHITE	NO	6.5	2	4
Pioneer 2545	I5158	-	-	-	98.2	-	-	-	57.7	RED	WHITE	NO	6.0	5	2
Frankenmuth	M0290	59.0	66.8	61.9	98.1	80.0	75.6	71.4	58.2	WHITE	BRONZE	NO	9.5	4	4
Hillsdale	M0295	60.2	64.8	60.3	97.2	78.7	74.1	70.6	58.3	RED	BRONZE	NO	8.0	1	2
Pioneer 2548	I4645	66.7	75.9	75.6	97.2	86.4	82.9	78.8	58.1	RED	WHITE	YES	5.0	2	1
Dynasty	I3966	66.9	70.5	62.5	95.7	79.1	76.2	73.9	59.1	RED	WHITE	YES	4.0	4	1
Discovery	I5084	-	-	55.8	95.0	75.4	-	-	58.8	RED	WHITE	NO	6.0	4	3
Ena	I5033	-	-	54.9	94.7	74.8	-	-	57.4	WHITE	WHITE	YES	8.0	1	3
Ny73116-4w	I5072	-	-	-	94.5	-	-	-	55.8	WHITE	WHITE	NO	9.0	2	0
Geneva	M0302	63.0	71.7	69.0	94.3	81.6	78.3	74.5	57.8	WHITE	BRONZE	NO	4.5	5	2
Ruby	I5156	-	-	-	92.8	-	-	-	59.6	RED	WHITE	NO	5.5	1	0
Gr 876	I4615	67.7	73.2	71.5	92.6	82.0	79.1	76.2	58.4	RED	WHITE	YES	5.0	1	1
Gr863	I4182	-	-	-	92.4	-	-	-	57.7	RED	WHITE	YES	2.5	1	X
Pro 100	I5160	-	-	-	91.8	-	-	-	58.4	RED	WHITE	NO	7.5	6	3
Patriot 180	I5165	-	-	71.9	91.6	81.7	-	-	61.1	RED	WHITE	NO	4.0	4	2
Madison	I4631	-	74.4	75.0	91.5	83.2	80.3	-	58.0	RED	WHITE	NO	3.5	2	1
Sawyer	I4622	-	-	67.5	91.4	79.4	-	-	58.0	RED	WHITE	NO	4.5	1	1
Wakefield	I4632	-	79.2	77.0	91.3	84.1	82.5	-	59.6	RED	WHITE	NO	6.5	2	2
Lincoln	I4647	61.5	66.0	63.7	90.0	76.8	73.2	70.3	58.6	RED	WHITE	NO	2.5	1	2
Atlantis	I5083	-	-	60.0	89.1	74.5	-	-	60.8	RED	WHITE	NO	4.0	3	1

Michigan State University Wheat Breeding Program: Multi-Year Performance Summary (All County sites included)
Final Report

Variety Name	MSU Stock ID	Single Year Multi-site Average Yields (Bushels/acre) 1989	1990	1991	1992	Across Year Averages (bu./acre) 2 YR 91-92	3 YR 90-92	4 YR 89-92	1992 Test Weight (lbs/bu.)	COLOR GRAIN	CHAFF	AWNS	1992 Obs. Anthesis Date (June 92)	Leaf Rust score	Lodge score
Twain	I4646	68.3	77.3	71.8	88.3	80.0	79.1	76.4	59.8	RED	WHITE	NO	4.5	1	1
Rs 927	I5163	.	.	.	88.3	.	.	.	60.5	RED	WHITE	NO	3.5	1	0
Columbia	I5085	.	.	55.3	85.5	70.4	.	.	60.1	RED	WHITE	NO	3.5	1	1
Sr203	I5071	.	.	58.1	82.8	70.4	.	.	57.7	RED	WHITE	NO	7.0	6	2
Pro Gold	I5162	.	.	.	82.8	.	.	.	57.6	RED	WHITE	YES	6.0	1	2
Pro 104	I5161	.	.	.	81.9	.	.	.	60.1	RED	WHITE	NO	3.5	1	2
Patriot 160	I5164	.	.	.	81.7	.	.	.	57.2	RED	WHITE	NO	2.5	1	3
Arbor	I5192	.	.	.	77.1	.	.	.	60.0	RED	WHITE	NO	4.5	1	1
	Mean	63.6	71.9	66.5	95.6	81.6	79.7	74.3	58.0						
	Counties	7	7	7	5	12	19	26	5						
				l.s.d.	8.2				1.2						
				c.v.	6.9				1.6						

Notes: 1) Leaf rust and lodging scores based on a 0-9 scale where 0=absent or excellent, and 9= very poor.
2) 1991 and 1992 results primarily from Trial 10 ("State Variety Trial"). For 1990 and 1989, white and red wheats were evaluated in separate Trials which were grown side by side at the various county sites.
3) Data sorted on 1992 average yield.

For additional information contact R. Ward, 517/355-2231

Exhibit E. Statement of Ownership

The variety for which Plant Variety Protection is hereby sought was developed by Dr. E. Everson and Dr. R. Ward, employees of Michigan State University. All rights to any invention, discovery, or development made by these employees while employed by Michigan State University were assigned to Michigan State University. No rights of any kind pertaining to Mendon are retained by the aforementioned or by any other employees.